ENGINEERING ANALYSIS
Magellan Terminals Holdings, L.P.
(209-0007)

Magellan Terminals Holdings, L.P. has submitted an application to modify an existing permitted truck rack (X005). They intend to replace the current Vapor Recovery Unit (VRU) with a Vapor Combustion Unit (VCU).

Magellan Midstream Partners, L.P. operates the following permitted tanks:

PERMITTED TANKS

Permit No.	Tank No.	Tank Description	Product Stored
Z001	1	1,785,000 Ext. Fl. Roof w/ Dome	Gasoline
Z002	2	1,260,000 Ext. Fl. Roof w/ Dome	Gasoline
Z003	3	630,000 Fixed Roof w/ Int. Fl. Pan	Gasoline
X004	4	630,000 Fixed Roof w/ Int. Fl. Pan	Ethanol/Gasoline

Currently, Magellan operates a loading rack (Air Permit Z005) that is subject to 40 CFR Part 60, Subpart XX, Standards of Performance for Bulk Gasoline Terminals and is required to meet a Volatile Organic Compound (VOC) emission limit of 35 mg/l. Magellan is required to comply with the inspection, reporting, recordkeeping, and testing requirements as described in Subpart XX. The facility is currently permitted to use a McGill carbon adsorption/absorption vapor recovery unit (VRU) to control VOC emissions from the loading rack.

Magellan plans to remove the McGill VRU and install a John Zink vapor combustion unit (VCU). Using the maximum truck rack throughput of 420,480,000 gallons/year and assuming the loading of only gasoline as the worst case scenario, estimated plant-wide restricted (35 mg/L) potential VOC emissions will be **69.71 TPY** (excluding fugitive emissions) and restricted potential total HAP emissions will be **10.22 TPY** (including fugitive emissions). Calculations for tank emissions were provided by Magellan using EPA's Tanks 4.09 program. Potential NOx and CO emissions from the VCU will be below major source thresholds.

Based upon these emission estimates, I recommend that Magellan Midstream Partners, L.P located in Montgomery, Alabama, continue to maintain its Synthetic Minor status. In accordance with the Air Division regulations, a public comment period will be required for this modification. In addition, the facility is not located within an ozone non-attainment area.

Donald W. Barron, II
Energy Branch
Air Division

July 27, 2010
Date

Attachment

Attachment A

SUMMARY OF EMISSIONS (TPY)

	RESTRICTED POTENTIAL EMISSIONS		POTENTIAL EMISSIONS	
	VOCs	**HAPs**	**VOCs**	**HAPs**
Tanks	8.31	0.91	8.31	0.91
Truck rack				
Gasoline	61.40	6.75	140.35	15.44
Distillate	0	0	0	0
TOTAL	**69.71**	7.66	**148.66**	16.35
Fugitives				
Truck Losses	22.81	2.51	22.81	2.51
Components	0.42	0.046	0.42	0.046
TOTAL	92.94	**10.216**	171.89	**18.906**

Restricted Potential Emissions

HAP emissions for conventional/normal gasoline used by the Montgomery terminal (not reformulated/oxygenated) were based on vapor profiles in the EPA OAQPS "Gasoline Distribution Industry (Stage 1) Background Information for Proposed Standards", No. EPA-453/R-94-002A, January 1994 (11% by wt. for total HAPs).

Tanks: VOC emissions from tanks were calculated by Magellan using TANKS 4.09.

Tank No.	Product	VOCs (lbs/yr)	Total HAPs (lbs/yr)
1	Gasoline	1,548	170
2	Gasoline	1,381	152
3	Gasoline	6,962	766
4	Gasoline	6,723	740
		16,614	1828
		8.31 TPY	**0.91 TPY**

Truck Rack with VCU: Restricted Potential **Gasoline** Loading Losses (NSPS: 35 mg/l):

$$\frac{35\ mg}{L} \times \frac{420{,}480{,}000\ gal}{yr} \times \frac{3.785\ L}{gal} \times \frac{g}{1000mg} \times \frac{lb}{453.6g} = 122{,}802.22\ lbs/yr$$

61.40 TPY VOCs
6.75 TPY HAPs

Restricted Potential **Distillate** Loading Losses: 0 TPY

NOTE: For the purpose of restricted potential emissions, I am assuming that only gasoline is being loaded in both loading lanes. This creates the worst case scenario.

Fugitive Emissions:

Truck Losses: (EPA emission factor)

$$\frac{13\ mg}{L} \times \frac{420{,}480{,}000\ gal}{yr} \times \frac{3.785\ L}{gal} \times \frac{g}{1000mg} \times \frac{lb}{453.6g} = 45{,}612.25\ lbs/yr$$

22.81 TPY VOCs
2.51 TPY HAPs

Components:

833 lbs/year

0.417 TPY VOCs
0.046 TPY HAPs

Restricted Potential Individual HAP Emissions

Gasoline Service

Gasoline Tanks	16,614 lbs/yr
Truck Rack	122,802 lbs/yr
Fugitive Emissions (FE) (truck losses & components)	46,445 lbs/yr

	Tanks (lbs/yr)	Rack (lbs/yr)	FE (lbs/yr)	Total (TPY)
Hexane (4.4%)	731	5,403	2,044	4.09
Benzene (2.2%)	366	2,702	1,022	2.05
Toluene (4.0%)	665	4,912	1,858	3.72
2,2,4-Trimethyl-pentane (2.6%)	432	3,193	1,208	2.42
Xylenes (1.5%)	249	1,842	697	1.39
Ethyl Benzene (0.5%)	83	614	232	0.46

Potential Emissions

HAP emissions for conventional/normal gasoline used by the Montgomery terminal (not reformulated/oxygenated) were based on vapor profiles in the EPA OAQPS "Gasoline Distribution Industry (Stage 1) Background Information for Proposed Standards", No. EPA-453/R-94-002A, January 1994 (11% by wt. for total HAPs).

Tanks:

VOC emissions from tanks were calculated by Magellan using TANKS 4.09.

Tank No.	Product	VOCs (lbs/yr)	Total HAPs (lbs/yr)
1	Gasoline	1,548	170
2	Gasoline	1,381	152
3	Gasoline	6,962	766
4	Gasoline	6,723	740
		16,614	1,828
		8.31 TPY	**0.91 TPY**

Truck Rack with VCU: Estimated Potential **Gasoline** Loading Losses (SIP: 80mg/l):

$$\frac{80\ mg}{L} \times \frac{420{,}480{,}000\ gal}{yr} \times \frac{3.785\ L}{gal} \times \frac{g}{1000mg} \times \frac{lb}{453.6g} = 280{,}691\ lbs/yr$$

140.35 TPY VOCs
15.44 TPY HAPs

Potential **Distillate** Loading Losses: 0 TPY

NOTE: For the purpose of restricted potential emissions, I am assuming that only gasoline is being loaded in both loading lanes. This creates the worst case scenario.

Fugitive Emissions:

Truck Losses: (EPA emission factor)

$$\frac{13\ mg}{L} \times \frac{420{,}480{,}000\ gal}{yr} \times \frac{3.785\ L}{gal} \times \frac{g}{1000mg} \times \frac{lb}{453.6g} = 45{,}612\ lbs/yr$$

22.81 TPY VOCs
2.51 TPY HAPs

Components:

833 lbs/year

0.417 TPY VOCs
0.046 TPY HAPs

Potential Individual HAP Emissions

Gasoline Service

Gasoline Tanks	16,614 lbs/yr
Truck Rack	280,691 lbs/yr
Fugitive Emissions (truck losses & components)	46,445 lbs/yr

	Tanks (lbs/yr)	Rack (lbs/yr)	FE (lbs/yr)	Total (TPY)
Hexane (4.4%)	731	12,350	2,044	7.56
Benzene (2.2%)	366	6,175	1,022	3.78
Toluene (4.0%)	665	11,228	1,858	6.88
2,2,4-Trimethyl-pentane (2.6%)	432	7,298	1,208	4.47
Xylenes (1.5%)	249	4,210	697	2.58
Ethyl Benzene (0.5%)	83	1,403	232	0.86

Proposed Provisos
Magellan Terminals Holdings, L.P. – Montgomery Terminal
Montgomery, Alabama
Permit No. 209-0007-X005

1. This permit is issued on the basis of Rules and Regulations existing on the date of issuance. In the event additional Rules and Regulations are adopted, it shall be the permit holder's responsibility to comply with such rules.

2. This permit is not transferable. Upon sale or legal transfer, the new owner or operator must apply for a permit within 30 days.

3. A new permit application must be made for new sources, replacements, alterations or design changes which may result in the issuance of, or an increase in the issuance of, air contaminants, or the use of which may eliminate or reduce or control the issuance of air contaminants.

4. Each point of emission will be provided with sampling ports, ladders, platforms, and other safety equipment to facilitate testing performed in accordance with procedures established by Part 60 of Title 40 of the Code of Federal Regulations, as the same may be amended or revised.

5. In case of shutdown of air pollution control equipment for scheduled maintenance for a period greater than **1 hour,** the intent to shut down shall be reported to the Air Division at least 24 hours prior to the planned shutdown, **unless accompanied by the immediate shutdown of the emission source.**

6. In the event there is a breakdown of equipment in such a manner as to cause increased emission of air contaminants for a period greater than **1 hour**, the person responsible for such equipment shall notify the Air Division within an additional 24 hours and provide a statement giving all pertinent facts, including the duration of the breakdown. The Air Division shall be notified when the breakdown has been corrected.

7. This process, including all air pollution control devices and capture systems for which this permit is issued, shall be maintained and operated at all times in a manner so as to minimize the emissions of air contaminants. Procedures for ensuring that the above equipment is properly operated and maintained so as to minimize the emission of air contaminants shall be established.

8. This permit expires and the application is cancelled if construction has not begun within 24 months of the date of issuance of the permit.

9. On completion of construction of the device(s) for which this permit is issued, written notification of the fact is to be given to the Chief of the Air Division. The notification shall indicate whether the device(s) was constructed as proposed in the application. The device(s) shall not be operated until authorization to operate is granted by the Chief of the Air Division. Failure to notify the Chief of the Air Division of completion of construction and/or operation without authorization could result in revocation of this permit.

10. Additions and revisions to the conditions of this Permit will be made, if necessary, to ensure that the Department's air pollution control rules and regulations are not violated.

11. Nothing in this permit or conditions thereto shall negate any authority granted to the Air Division pursuant to the Alabama Environmental Management Act or regulations issued there under.

12. This permit is issued with the condition that, should obnoxious odors arising from the plant operations be verified by Air Division inspectors, measures to abate the odorous emissions shall be taken upon a determination by the Alabama Department of Environmental Management that these measures are technically and economically feasible.

13. Precautions shall be taken by the permittee and its personnel to ensure that no person shall ignite, cause to be ignited, permit to be ignited, or maintain any open fire in such a manner as to cause the Department's rules and regulations applicable to open burning to be violated.

14. The permittee shall not use as a defense in an enforcement action that maintaining compliance with conditions of this permit would have required halting or reducing the permitted activity.

15. The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege.

16. Prior to a date to be specified by the Chief of the Air Division in the authorization to operate, emission tests are to be conducted by persons familiar with and using the EPA Sampling Train and Test Procedure as described in the Code of Federal Regulations, Title 40, Part 60, for the following pollutants. Written tests results are to be reported to the Air Division within 15 working days of completion of testing.

Particulates	( )	Carbon Monoxide	( )
Sulfur Dioxide	( )	Nitrogen Oxides	( )
Volatile Organic Compounds	(**X**)	Visible Emissions	( )

17. Emissions tests are to be conducted at intervals not to exceed **two (2) years** following the date of initial compliance testing.

18. Submittal of other reports regarding monitoring records, fuel analyses, operating rates, and equipment malfunctions may be required as authorized in the Department's air pollution control rules and regulations. The Department may require stack emission testing at any time.

19. The Air Division must be notified in writing at least 10 working days in advance of all emission tests to be conducted and submitted as proof of compliance with the Department's air pollution control rules and regulations.

    To avoid problems concerning testing methods and procedures, the following shall be included with the notification letter:

    a. The date the test crew is expected to arrive, the date and time anticipated of the start of the first run, how many and which sources are to be tested, and the names of the persons and/or testing company that will conduct the tests.

    b. A complete description of each sampling train to be used, including type of media used in determining gas stream components, type of probe lining, type of filter media, and probe cleaning method and solvent to be used (if test procedure requires probe cleaning).

    c. A description of the process(es) to be tested, including the feed rate, any operating parameter used to control or influence the operations, and the rated capacity.

    d. A sketch or sketches showing sampling point locations and their relative positions to the nearest upstream and downstream gas flow disturbances.

    A pretest meeting may be held at the request of the source owner or the Department. The necessity for such a meeting and the required attendees will be determined on a case-by-case basis.

    All test reports must be submitted to the Air Division within 15 days of the actual completion of the test, unless an extension of time is specifically approved by the Air Division.

20. The permittee shall comply with all applicable standards described in the Code of Federal Regulations, Title 40, Part 63, Subpart BBBBBB no later than January 10, 2011.

21. The permittee shall comply with all applicable standards described in the Code of Federal Regulations, Title 40, Part 60, Subpart XX.

22. The allowable VOC emissions from this source shall not exceed 35 milligrams per liter of gasoline loaded (0.292 pounds per 1000 gallons of gasoline loaded).

23. The potential emissions of hazardous air pollutants (HAPs) from this bulk terminal, as identified in Section 112(b) of Title III of the Clean Air Act, shall not exceed 9.0 TPY for any single HAP and 24.0 TPY for any combination of HAPs. Compliance with this condition shall be determined by the throughput recordkeeping and reporting requirements of Proviso No. 24.

24. This facility shall submit, by February 15th of each calendar year, an annual report of the total throughputs of gasoline, distillates, and additives for the previous calendar year and the estimated actual total VOC and HAP emissions for the facility.

25. The facility shall not allow the loading of gasoline into tank trucks or trailers unless the tank trucks and trailers are vapor-tight and have visibly-attached valid ADEM Air Stickers or Jefferson County Department of Health Air Stickers.

DRAFT

Date